

Storm Data and Unusual Weather Phenomena - July 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
ILLINOIS, South				
ALEXANDER COUNTY --- 2.5 ESE CAIRO [36.98, -89.14], 2.7 ESE CAIRO [36.99, -89.13], 0.9 NE CAIRO [37.01, -89.17], 1.0 ESE CAIRO [37.00, -89.16]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/03/11 14:00 CST		0	Source: River/Stream Gage
Minor flooding continued on the Ohio River into the first few days of July. There was some minor inundation of low-lying fields and parkland near the river.				
ALEXANDER COUNTY --- THEBES [37.22, -89.47], 2.0 WNW MILLER CITY [37.13, -89.41], 1.3 NNE MILLER CITY [37.14, -89.36], 0.7 NE THEBES JCT [37.21, -89.44]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/16/11 10:00 CST		0	Source: River/Stream Gage
The Mississippi River finally fell below flood stage for the first time since April 21. At the Thebes river gage, the highest level (or crest) in July was 37.77 feet on the 6th. This crest represented moderate flooding. Though the flooding in July was considerably less severe than the preceding three months, a small number of homes and businesses remained underwater early in July. The Mississippi River remained too high to raise any of the locks and gates along the levees. As a result, the water from recent heavy rains as well as lingering floodwater from May remained trapped inland.				
FRANKLIN COUNTY --- 1.3 SE ZEIGLER [37.89, -89.03], 0.8 SSW ZEIGLER [37.89, -89.06], 1.7 S ZEIGLER [37.88, -89.05], 0.9 WSW PLUMFIELD [37.87, -89.02]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/15/11 13:00 CST		0	Source: River/Stream Gage
Minor flooding on the Big Muddy River continued into mid-July. The river continued slowly falling after reaching its crest in June. Some low-lying fields near the river were underwater.				
JACKSON COUNTY --- 2.5 W MURPHYSBORO [37.77, -89.38], 2.8 W MURPHYSBORO [37.77, -89.38], 2.3 WNW MT CARBON [37.76, -89.37], 1.4 W MT CARBON [37.75, -89.35], 1.8 WNW MT CARBON [37.76, -89.36]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/18/11 13:00 CST		0	Source: River/Stream Gage
Minor flooding on the Big Muddy River continued into mid-July. The river continued slowly falling after reaching its crest in June. Some low-lying fields and parklands near the river were underwater.				
WABASH COUNTY --- 1.4 E MT CARMEL [38.42, -87.75], 2.3 NE MT CARMEL [38.44, -87.74], 1.8 NE MT CARMEL [38.44, -87.75], 1.1 ENE MT CARMEL [38.42, -87.75]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/01/11 14:00 CST		0	Source: River/Stream Gage
Along the Wabash River, minor flooding that began in late June ended on the first day of July. Some low-lying fields and woodlands near the river were inundated.				
WHITE COUNTY --- 1.4 SSE CARMi MUNI ARPT [38.08, -88.14], 2.6 S CARMi [38.04, -88.16], 2.1 SE TRUMBULL [38.06, -88.21], 0.6 ESE CARMi [38.08, -88.16]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/19/11 08:00 CST		0	Source: River/Stream Gage
Minor flooding continued on the Little Wabash River from late June into mid July. At the Carmi river gage, the highest level (or crest) was 31.83 feet on the 9th. Flood stage is 27 feet. There was flooding of fields and low-lying county roads near the river.				
WHITE COUNTY --- 4.2 NE MAUNIE [38.07, -88.00], 5.5 ENE MAUNIE [38.07, -87.96], MAUNIE [38.03, -88.05], 1.1 NNW MAUNIE [38.04, -88.06]				
	07/01/11 00:00 CST		0	Flood (due to Heavy Rain)
	07/02/11 09:00 CST		0	Source: River/Stream Gage
Minor flooding that began on the Wabash River in late June ended very early in July. There was some inundation of low-lying fields near the river.				
Several rivers that had risen above flood stage in late June fell back in early to mid July. Floodwaters from the Missouri River finally made it down the Mississippi River, resulting in crests with minor to moderate flooding early in the month. Heavy rainfall across southern Illinois during the last week of June and the first week of July sent the Little Wabash River above flood stage for a few weeks.				
(IL-Z075) JEFFERSON, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN				

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/03/11 11:00 CST		0	Heat
	07/03/11 14:00 CST		0	

A weak cold front slowly sagged south into southern Illinois. Ahead of the front, dangerous levels of heat and humidity developed across parts of southern Illinois. The heat index peaked around 105 degrees. Actual high temperatures were in the mid 90's.

JEFFERSON COUNTY --- DIX [38.43, -88.93]

07/03/11 12:35 CST	0	Heavy Rain
07/04/11 10:00 CST	0	Source: Trained Spotter

A trained spotter measured 2.84 inches in about 24 hours.

JEFFERSON COUNTY --- 1.3 WNW DIX [38.44, -88.95]

07/03/11 12:57 CST	0	Hail (1.00 in)
07/03/11 12:57 CST	0	Source: NWS Employee

This hail occurred at the Dix exit on Interstate 57.

JEFFERSON COUNTY --- DIX [38.43, -88.93]

07/03/11 12:57 CST	4K	Thunderstorm Wind (EG 56 kt)
07/03/11 12:57 CST	0	Source: Trained Spotter

Trees were blown down, along with some branches and limbs.

WAYNE COUNTY --- WAYNE CITY [38.35, -88.58], 2.0 S WAYNE CITY [38.32, -88.58]

07/03/11 13:14 CST	5K	Thunderstorm Wind (EG 56 kt)
07/03/11 13:14 CST	0	Source: Trained Spotter

A trained spotter estimated a wind gust to 65 mph in Wayne City. Shingles were blown off a roof south of Wayne City.

WAYNE COUNTY --- 1.7 SSE KEENESVILLE [38.38, -88.64], 0.3 SSE COVINGTON [38.40, -88.48], 4.3 NE MAYBERRY [38.31, -88.49], 0.8 S KEENES [38.32, -88.63]

07/03/11 13:45 CST	0	Flash Flood (due to Heavy Rain)
07/03/11 14:45 CST	0	Source: Trained Spotter

Highway 242 was flooded in Wayne City. Flowing water covered several other city roads.

Thunderstorms developed along and ahead of a cold front as it pushed southeast across southern Illinois. A 500 mb shortwave trough moving southeast across the Middle Missouri Valley enhanced the storms. While the steering winds were rather weak, high moisture and instability contributed to multicell storms with isolated wet microbursts and torrential rain.

WAYNE COUNTY --- FAIRFIELD [38.38, -88.37], GEFF [38.45, -88.40], 2.6 W GEFF [38.45, -88.45], 1.9 NW HUBBARD [38.35, -88.40]

07/07/11 19:06 CST	0	Flash Flood (due to Heavy Rain)
07/07/11 23:00 CST	0.10M	Source: Broadcast Media

A radio station in Fairfield measured 1.96 inches in one hour. U.S. Highway 45 was flooded near Geff. Water was over some other roads. Thousands of acres of fertile bottomland were taken out of production. The acreage was mostly planted with corn, along with some soybeans.

WABASH COUNTY --- MT CARMEL [38.42, -87.77]

07/07/11 19:11 CST	0	Heavy Rain
07/08/11 07:11 CST	0	Source: COOP Observer

A co-operative observer measured a 24-hour rainfall total of 3.68 inches.

HAMILTON COUNTY --- MC LEANSBORO [38.10, -88.53]

07/07/11 20:40 CST	0	Heavy Rain
07/07/11 21:10 CST	0	Source: Trained Spotter

A trained spotter measured 1.75 inches of rain in 30 minutes.

EDWARDS COUNTY --- 2.6 NW ALBION [38.40, -88.09], 2.9 SW ALBION [38.35, -88.09], 2.4 SE ALBION [38.35, -88.02], 1.8 NE ALBION [38.40, -88.03]

07/07/11 20:57 CST	50K	Flash Flood (due to Heavy Rain)
07/07/11 23:50 CST	0	Source: Trained Spotter

Storm Data and Unusual Weather Phenomena - July 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Illinois Routes 15 and 130 were flooded in the Albion area. Many rural county roads suffered from washouts, especially gravel roads and culverts. A trained spotter in Albion reported a 24-hour rainfall total of 2.78 inches.				
EDWARDS COUNTY --- ALBION [38.38, -88.05]				
	07/07/11 21:00 CST		50K	Lightning
	07/07/11 21:00 CST		0	Source: Newspaper
A lightning strike took out phone lines, radio consoles, and alarm systems at the county courthouse. The lightning appeared to have surged through the phone lines into the building.				
WHITE COUNTY --- CARMi [38.08, -88.17], 2.2 NNW ENFIELD [38.13, -88.34], 1.7 SW SACRAMENTO [38.01, -88.35], 3.5 E BROWNSVILLE [38.03, -88.19]				
	07/07/11 21:20 CST		0.10M	Flash Flood (due to Heavy Rain)
	07/07/11 23:50 CST		0	Source: Newspaper
Thunderstorms with torrential rainfall dumped nearly four inches of rain in Carmi. During a 10-minute span, rainfall was 0.73 inches at Carmi. A number of rural roads were washed out. Several hours after the rain ended, one of the washouts caused a major vehicle wreck on County Road 900 north of Norris City. The vehicle was towed from the scene, and a passenger was treated for significant injuries (indirect injury not directly caused by flooding). Portions of roadways were washed out along the Hamilton County line. Entire sections of roadway were washed out, leaving holes more than a foot deep in some places.				
WAYNE COUNTY --- WAYNE CITY [38.35, -88.58], 1.3 SE WAYNE CITY [38.34, -88.56], 1.9 ESE WAYNE CITY [38.34, -88.55], 0.8 E WAYNE CITY [38.35, -88.57]				
	07/09/11 01:00 CST		0	Flood (due to Heavy Rain)
	07/10/11 12:00 CST		10K	Source: River/Stream Gage
There was minor flooding of the Skillet Fork River. Some low-lying fields near the river were underwater. Some corn and soybean acreage was lost.				
A 500 mb shortwave trough digging southeast toward the Lower Ohio Valley helped initiate clusters of thunderstorms. The clusters of storms consolidated into a large complex that brought heavy rainfall to parts of southern Illinois.				
(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC				
	07/10/11 11:00 CST		0	Excessive Heat
	07/12/11 20:00 CST		0	
High pressure in the middle and upper levels of the atmosphere expanded east-northeast from the southern Plains. As this high expanded across the Lower Ohio Valley, it brought a few days of excessive heat and humidity. Peak heat indices on the afternoon of the 10th reached 112 degrees at Carbondale and 111 at Harrisburg. On the 11th, the heat index peaked at 117 degrees at Carbondale and 119 at Harrisburg. On the 12th, the heat index peaked at 116 degrees at Carbondale and 115 at Harrisburg. Actual air temperatures were highest on the 11th, when the high at Carbondale was 99 and the low was 81.				
WAYNE COUNTY --- FAIRFIELD MUNI ARPT [38.38, -88.42]				
	07/12/11 14:10 CST		0	Funnel Cloud
	07/12/11 14:10 CST		0	Source: Emergency Manager
A rope-like funnel cloud was photographed over the Fairfield Municipal Airport. The photographer stated the funnel cloud briefly dipped to within 200 to 300 feet of the ground.				
WABASH COUNTY --- MT CARMEL [38.42, -87.77]				
	07/12/11 15:15 CST		0	Heavy Rain
	07/12/11 16:24 CST		0	Source: Public
Street flooding was reported. There were several inches of moving water across at least one street.				
WABASH COUNTY --- MT CARMEL [38.42, -87.77]				
	07/12/11 15:38 CST		20K	Thunderstorm Wind (EG 52 kt)
	07/12/11 15:38 CST		0	Source: Newspaper
Trees and power lines were brought down in at least three places. The majority of the east side of Mount Carmel was without power.				
WABASH COUNTY --- MT CARMEL [38.42, -87.77]				

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/12/11 15:45 CST		10K	Lightning
	07/12/11 15:45 CST		0	Source: Newspaper

A storage shed on the west side of town was destroyed by an apparent lightning strike.

JEFFERSON COUNTY --- MT VERNON [38.32, -88.90]

07/12/11 16:53 CST	0	Heavy Rain
07/12/11 19:00 CST	0	Source: Newspaper

Heavy rain resulted in flooding of several city streets.

JEFFERSON COUNTY --- MT VERNON [38.32, -88.90]

07/12/11 17:16 CST	40K	Thunderstorm Wind (EG 52 kt)
07/12/11 17:16 CST	0	Source: Newspaper

Numerous trees and power lines were brought down. An athletic field fence was damaged. Eleven utility poles were knocked down. About 1,500 utility customers were without power in the city. Power was fully restored by noon the following day.

PERRY COUNTY --- DU QUOIN [38.02, -89.23]

07/12/11 18:45 CST	0	Heavy Rain
07/12/11 20:35 CST	0	Source: Emergency Manager

Street flooding occurred on the outer lanes of U.S. Highway 51 near DuQuoin.

JACKSON COUNTY --- 1.5 SE BARR [37.73, -89.25], 2.5 NW BOSKYDELL [37.69, -89.25], 2.1 SE CARBONDALE [37.70, -89.20], 2.2 NE CARBONDALE [37.74, -89.19]

07/12/11 19:25 CST	5K	Flash Flood (due to Heavy Rain)
07/12/11 20:15 CST	0	Source: Law Enforcement

Torrential rains caused street flooding in Carbondale. A few vehicles were stranded in floodwater.

MASSAC COUNTY --- ROUND KNOB [37.25, -88.75]

07/12/11 19:55 CST	0	Heavy Rain
07/12/11 20:10 CST	0	Source: Emergency Manager

A trained spotter measured 0.78 inches of rain in 15 minutes.

MASSAC COUNTY --- 3.0 S NEW COLUMBIA [37.28, -88.78]

07/12/11 20:05 CST	15K	Thunderstorm Wind (EG 52 kt)
07/12/11 20:05 CST	5K	Source: Emergency Manager

A barn was blown down. The barn was estimated to be about 70 years old. The barn was about 30 feet tall and likely contained a hay loft. Large tree limbs were blown down nearby. A nearby corn field was partially flattened.

ALEXANDER COUNTY --- 0.7 W OLIVE BRANCH [37.17, -89.36]

07/12/11 20:20 CST	4K	Thunderstorm Wind (EG 52 kt)
07/12/11 20:20 CST	0	Source: Trained Spotter

Trees were blown down over Illinois Route 3.

Clusters of thunderstorms drifted east-southeast across southern Illinois. A hot air mass fed north-northeastward into these storms, maintaining a feed of instability. Strong outflow winds ahead of the storms produced isolated damage. After the initial round of storms stabilized the atmosphere, the storms posed more of a heavy rain and flooding threat. The storms occurred along and ahead of a cold front that was draped across southern Illinois and southern Missouri.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC

07/19/11 11:00 CST	0	Excessive Heat
07/24/11 14:00 CST	0	

A large and strong high in the upper levels of the atmosphere drifted slowly east from the central Plains across the Lower Ohio Valley. This strong upper-level high brought six consecutive days of dangerously high heat and humidity. The peak heat index at Carbondale

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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was 106 degrees on the 19th and 20th, 113 degrees on the 21st, and from 106 to 108 degrees on the 22nd, 23rd, and 24th. The peak heat index at Harrisburg was 105 degrees on the 19th, 107 on the 20th, 110 on the 21st, 107 on the 22nd, and 110 on the 24th. Low temperatures were in the mid 70's each night. Cooling centers were opened in about ten cities, including Carbondale, Cairo, Mount Vernon, Metropolis, Golconda, Mounds, Harrisburg, Marion, Carmi, and Mount Carmel.

EDWARDS COUNTY --- 2.0 S ALBION [38.35, -88.05]

07/24/11 13:10 CST	0	Heavy Rain
07/24/11 15:00 CST	0	Source: Unknown

Street flooding was reported on Route 130.

WHITE COUNTY --- GRAYVILLE [38.27, -88.00]

07/24/11 14:20 CST	40K	Thunderstorm Wind (EG 50 kt)
07/24/11 14:20 CST	0	Source: Law Enforcement

A large tree fell on a house, causing significant damage. The storm damaged branches and limbs, knocking out power to portions of the city.

Numerous thunderstorms accompanied a cold front as it sagged southeast across southern Illinois. Due to weak steering winds associated with an upper level ridge, the storms moved rather slowly. This resulted in locally heavy rain.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE

07/25/11 04:00 CST	0	Dense Fog
07/25/11 07:00 CST	0	

Areas of dense fog formed in the wake of a weak cold front. Thunderstorms the previous afternoon soaked the ground, contributing to high humidity. The dense fog reduced visibility to one-quarter mile or less.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC

07/27/11 12:00 CST	0	Heat
07/29/11 17:00 CST	0	

A large and strong high in the upper levels of the atmosphere became oriented from the central Plains eastward across the Lower Ohio Valley to the Atlantic coast. As this high expanded across the Lower Ohio Valley, it brought a few days of high heat and humidity. The peak heat index at Carbondale was 106 degrees on the 27th and 28th, and 103 on the 29th. The peak heat index at Harrisburg was 105 on all three days. Actual air temperatures were highest on the 28th, when the high at Carbondale was 97 degrees.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC

07/31/11 11:00 CST	0	Heat
07/31/11 16:00 CST	0	

High temperatures reached the lower to mid 90's. Combined with high humidity levels, the hot temperatures produced heat indices from 105 to 110 degrees. The peak heat index was 105 degrees at Marion and Harrisburg, and 110 at Carmi. A large and strong high in the upper levels of the atmosphere shifted slowly east from the central Plains toward the Middle Mississippi Valley.

INDIANA, Southwest

GIBSON COUNTY --- 1.3 NNW HAZLETON [38.50, -87.54], 1.1 W GIRO [38.50, -87.49], 1.2 SW GIRO [38.49, -87.49], 0.8 NNW HAZLETON [38.49, -87.53]

07/01/11 00:00 CST	0	Flood (due to Heavy Rain)
07/02/11 18:00 CST	0	Source: River/Stream Gage

Along the White River, minor flooding that began in late June ended very early in July. There was some inundation of low-lying fields near the river.

GIBSON COUNTY --- EAST MT CARMEL [38.40, -87.73], 1.1 NW EAST MT CARMEL [38.41, -87.74], 1.7 WSW EAST MT CARMEL [38.39, -87.76], 1.7 WSW EAST MT CARMEL [38.39, -87.76]

07/01/11 00:00 CST	0	Flood (due to Heavy Rain)
07/01/11 14:00 CST	0	Source: River/Stream Gage

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Along the Wabash River, minor flooding that began in late June ended on the first day of July. Some low-lying fields and woodlands near the river were inundated.				

PIKE COUNTY --- 0.9 NNW PETERSBURG [38.51, -87.28], 2.3 NE PETERSBURG [38.53, -87.25], 1.8 NE PETERSBURG [38.52, -87.26], 0.7 N PETERSBURG [38.51, -87.28]

07/01/11 00:00 EST	0	Flood (due to Heavy Rain)
07/01/11 10:00 EST	0	Source: River/Stream Gage

Minor flooding on the White River that began in late June ended on the first day of July. There was some inundation of fields near the river.

POSEY COUNTY --- NEW HARMONY [38.13, -87.93], 0.6 NW NEW HARMONY [38.14, -87.94], 1.6 N NEW HARMONY [38.15, -87.93], 1.4 NNE NEW HARMONY [38.15, -87.92]

07/01/11 00:00 CST	0	Flood (due to Heavy Rain)
07/02/11 09:00 CST	0	Source: River/Stream Gage

Minor flooding that began on the Wabash River in late June ended very early in July. There was some inundation of low-lying fields near the river.

The White and Wabash Rivers, which had risen above flood stage in late June, fell back in early July. Heavy rainfall across southern Illinois and Indiana during the last week of June sent the rivers above flood stage for a week or so.

POSEY COUNTY --- 1.6 E UPTON [37.97, -87.94], 0.8 NNE FARMERSVILLE [37.99, -87.90], 0.5 WNW BUFKIN [37.98, -87.86], 1.5 NE MT VERNON ARPT [37.94, -87.86], 2.0 WNW MT VERNON [37.94, -87.93]

07/03/11 16:05 CST	0	Flash Flood (due to Heavy Rain)
07/03/11 17:05 CST	0	Source: State Official

A couple of roads were flooded in the Mount Vernon area, including Highway 69 near Farmersville.

WARRICK COUNTY --- NEWBURGH [37.95, -87.42]

07/03/11 16:55 CST	0	Hail (0.75 in)
07/03/11 16:55 CST	0	Source: Unknown

Thunderstorms developed along and ahead of a cold front as it pushed southeast across southern Illinois. A 500 mb shortwave trough moving southeast across the Middle Missouri Valley enhanced the storms. While the steering winds were rather weak, high moisture and instability contributed to multicell storms with torrential rain.

POSEY COUNTY --- MT VERNON [37.93, -87.90]

07/07/11 19:00 CST	0	Heavy Rain
07/08/11 06:29 CST	0	Source: COOP Observer

A co-operative observer recorded a 24-hour rainfall total of 3.08 inches.

VANDERBURGH COUNTY --- EVANSVILLE [37.98, -87.55]

07/07/11 19:15 CST	0	Heavy Rain
07/08/11 06:00 CST	0	Source: ASOS

At the Evansville airport, a total of 3.74 inches was recorded within a 12-hour period. A new daily rainfall record of 2.70 inches was established for July 7.

WARRICK COUNTY --- NEWBURGH [37.95, -87.42]

07/07/11 19:30 CST	0	Heavy Rain
07/08/11 06:57 CST	0	Source: Trained Spotter

The 24-hour rainfall reported by a trained spotter was 3.17 inches.

VANDERBURGH COUNTY --- 4.2 SSE SMYTHE [37.94, -87.46]

07/07/11 23:00 CST	0	Heavy Rain
07/08/11 07:52 CST	0	Source: Trained Spotter

A total of 2.90 inches of rainfall was measured in the Angel Mounds area in the southeast corner of Vanderburgh County.

A 500 mb shortwave trough digging southeast toward the Lower Ohio Valley helped initiate clusters of thunderstorms. The clusters of storms consolidated into a large complex that brought heavy rainfall to parts of southwest Indiana.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/11/11 11:00 CST		0	Excessive Heat
	07/12/11 16:00 CST		0	
High pressure in the middle and upper levels of the atmosphere expanded east-northeast from the southern Plains. As this high expanded across the Lower Ohio Valley, it brought a couple days of excessive heat and humidity. The peak heat index at Evansville was 114 degrees on the 11th and 115 on the 12th. Actual air temperatures were highest on the 12th, when the high at Evansville was 99 degrees.				
SPENCER COUNTY --- DALE [38.17, -86.98]				
	07/12/11 15:00 CST		0	Heavy Rain
	07/12/11 17:30 CST		0	Source: Emergency Manager
Several inches of water covered most roads in Dale.				
GIBSON COUNTY --- FRANCISCO [38.33, -87.45]				
	07/12/11 16:01 CST		10K	Thunderstorm Wind (EG 52 kt)
	07/12/11 16:01 CST		0	Source: Public
Trees and power lines were blown down.				
GIBSON COUNTY --- 1.4 S OAKLAND CITY [38.31, -87.35], 1.5 SSE MACKEY [38.23, -87.37], 2.4 W BUCKSKIN [38.23, -87.46], 2.3 N MC GARY [38.30, -87.64], 2.5 NE LYLE [38.39, -87.61], 1.3 NNE DOUGLAS [38.35, -87.49]				
	07/12/11 16:20 CST		0	Flash Flood (due to Heavy Rain)
	07/12/11 17:56 CST		0	Source: Law Enforcement
Indiana Highway 57 was under water south of Oakland City. Flash flooding was reported in Francisco by a trained spotter. Rainfall totals included 2.50 inches at Princeton and 2.75 inches at Fort Branch, mostly within a couple hours.				
VANDERBURGH COUNTY --- (EVV)DRESS ARPT EVAN [38.03, -87.53], 1.8 WNW STRINGTOWN [38.04, -87.60], 0.9 NNE HOWELL [37.98, -87.62], 3.1 SE EVANSVILLE [37.95, -87.51]				
	07/12/11 16:50 CST		40K	Flash Flood (due to Heavy Rain)
	07/12/11 18:00 CST		0	Source: Emergency Manager
Significant flooding was reported on side streets and at least one main thoroughfare. At least a couple of underpasses were flooded. Stranded vehicles were towed out of floodwaters. Flooding occurred on the Lloyd Expressway. The Evansville airport reported about 1.2 inches of rain in 45 minutes.				
WARRICK COUNTY --- 0.6 SE LYNNVILLE [38.19, -87.29]				
	07/12/11 16:56 CST		0	Heavy Rain
	07/12/11 17:56 CST		0	Source: Trained Spotter
Indiana Route 61 was under several inches of water at Interstate 64. There was a public report of 4.25 inches of rain in Lynnville.				
PIKE COUNTY --- PETERSBURG [38.50, -87.28], OTWELL [38.45, -87.10], 1.3 SSW CATO [38.41, -87.19], 1.0 ENE WILLISVILLE [38.45, -87.28]				
	07/12/11 17:20 EST		0	Flash Flood (due to Heavy Rain)
	07/12/11 18:30 EST		0	Source: Trained Spotter
Numerous streets were flooded that don't normally flood. Several roads were flooded in the Petersburg and Otwell areas, including State Route 356.				
Clusters of thunderstorms drifted east-southeast across southwest Indiana. A hot and very moist air mass fed north-northeastward into these storms, maintaining a feed of instability. The storms produced torrential rainfall and an isolated microburst. The storms occurred along and ahead of a cold front that was draped across southern Illinois and southern Missouri.				
(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER				
	07/19/11 11:00 CST		0	Excessive Heat
	07/23/11 18:00 CST		0	
A large and strong high in the upper levels of the atmosphere drifted slowly east from the central Plains across the Lower Ohio Valley. This strong upper-level high brought several consecutive days of dangerously high heat and humidity. The peak heat index at Evansville was 107 degrees on the 19th, 110 on the 20th, 108 degrees on the 21st, and 107 on the 22nd. Based on an unofficial observation, the heat index reached 106 degrees in Boonville on the 23rd. Low temperatures were in the mid to upper 70's each night. The Red Cross opened several cooling centers across southwest Indiana, including Evansville, Boonville, Princeton, and Mount Vernon.				
(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER				

Storm Data and Unusual Weather Phenomena - July 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/25/11 04:00 CST		0	Dense Fog
	07/25/11 07:00 CST		0	

Areas of dense fog formed in the wake of a weak cold front. Thunderstorms the previous afternoon soaked the ground, contributing to high humidity. The dense fog reduced visibility to one-quarter mile or less.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

07/27/11 12:00 CST	0	Heat
07/28/11 18:00 CST	0	

A large and strong high in the upper levels of the atmosphere became oriented from the central Plains eastward across the Lower Ohio Valley to the Atlantic coast. As this high expanded across the Lower Ohio Valley, it brought a couple days of high heat and humidity. The peak heat index at Evansville was 103 degrees on both the 27th and 28th. Actual air temperatures were highest on the 28th, when the high at Evansville was 96 degrees.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

07/31/11 12:00 CST	0	Heat
07/31/11 17:00 CST	0	

High temperatures reached the lower to mid 90's. Combined with high humidity levels, the hot temperatures produced heat indices near 105 degrees. The peak heat index at Evansville was 104 degrees. A large and strong high in the upper levels of the atmosphere shifted slowly east from the central Plains toward the Middle Mississippi Valley.

KENTUCKY, Southwest

WEBSTER COUNTY --- DIXON [37.52, -87.70]

07/07/11 19:05 CST	0	Heavy Rain
07/08/11 07:05 CST	0	Source: COOP Observer

A co-operative observer measured a 24-hour rainfall total of 3.45 inches.

A 500 mb shortwave trough digging southeast toward the Lower Ohio Valley helped initiate clusters of thunderstorms. The clusters of storms consolidated into a large complex that brought heavy rainfall to parts of western Kentucky.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD

07/10/11 12:00 CST	0	Excessive Heat
07/12/11 20:00 CST	1	0

High pressure in the middle and upper levels of the atmosphere expanded east-northeast from the southern Plains. As this high expanded across the Lower Ohio Valley, it brought a few days of excessive heat and humidity. Peak heat indices on the afternoon of the 10th reached 112 degrees at Paducah and 114 at Murray. On the 11th, the heat index peaked at 117 degrees at Paducah and 115 at Hopkinsville and Henderson. On the 12th, the heat index peaked at 112 degrees at Paducah and Hopkinsville, and 119 at Henderson. Actual air temperatures were highest on the 11th, when the high at Paducah was 97 and the low was 80. In Muhlenberg County, a Kentucky state highway worker collapsed from heat exhaustion while flagging traffic at a work zone. The worker was treated for dehydration.

DAVIESS COUNTY --- WHITESVILLE [37.68, -86.88]

07/12/11 12:40 CST	0	Heavy Rain
07/12/11 13:30 CST	0	Source: Emergency Manager

Ditches were overflowing, and water was over the road in a number of places.

DAVIESS COUNTY --- WHITESVILLE [37.68, -86.88]

07/12/11 12:45 CST	30K	Thunderstorm Wind (EG 56 kt)
07/12/11 12:45 CST	4K	Source: Emergency Manager

A roof was blown off a barn. One carport was destroyed, with debris spread over about 100 yards. One power line was down. Several barns and outbuildings sustained some roof damage. Two corn fields with corn about four feet high were blown down to the southeast. A large number of limbs up to two inches in diameter were blown down. All the damage occurred within a radius of about two miles.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
CARLISLE COUNTY --- BARDWELL [36.87, -89.02]				
	07/12/11 20:40 CST		60K	Thunderstorm Wind (EG 61 kt)
	07/12/11 20:40 CST		0	Source: Law Enforcement
One half of a roof was blown off a business along U.S. Highway 51. The other half of the roof was severely damaged. Power lines and some trees were down on U.S. Highway 51. The wind damage was caused by outflow winds that progressed well ahead of the actual thunderstorms.				
MCCRACKEN COUNTY --- LONE OAK [37.03, -88.67], 1.3 SE PADUCAH [37.07, -88.61]				
	07/12/11 20:40 CST		10K	Thunderstorm Wind (EG 52 kt)
	07/12/11 20:40 CST		2K	Source: Emergency Manager
A billboard was destroyed on the south side of Paducah. Numerous tree limbs were blown down, some up to three inches in diameter. About one-half to one acre of corn was flattened just west of Paducah.				
MCCRACKEN COUNTY --- PADUCAH [37.08, -88.63], 1.3 N LONE OAK [37.05, -88.67], 2.4 NE KREBS [37.01, -88.59], 0.1 ENE WOODLAWN [37.05, -88.57], 1.5 NNW TYLER [37.07, -88.59]				
	07/12/11 20:40 CST		10K	Flash Flood (due to Heavy Rain)
	07/12/11 21:55 CST		0	Source: Emergency Manager
An intersection on U.S. Highway 62 was shut down because of flooding that was estimated to be almost two feet deep. Considerable street flooding was reported on roadways across Paducah, including the railroad underpass on U.S. Highway 62. Some cars were stranded. A television station in Paducah measured 2.40 inches of rain.				
LYON COUNTY --- EDDYVILLE [37.05, -88.07]				
	07/12/11 20:45 CST		0	Heavy Rain
	07/12/11 21:35 CST		0	Source: Trained Spotter
A trained spotter reported 1.5 inches of rain and still falling heavily.				
MARSHALL COUNTY --- CALVERT CITY [37.03, -88.35]				
	07/12/11 20:45 CST		0	Heavy Rain
	07/12/11 21:20 CST		0	Source: Public
Rainfall during the 35-minute period was 1.1 inches.				
LYON COUNTY --- 2.9 SSE EUREKA [36.98, -88.19]				
	07/12/11 20:53 CST		0	Thunderstorm Wind (EG 50 kt)
	07/12/11 20:53 CST		0	Source: Fire Department/Rescue
A 50-foot houseboat was blown aground. Two other boats were reported to be grounded.				
The initial storms formed in a hot and very unstable air mass, producing an isolated microburst near Owensboro. Later in the evening, a large cluster of thunderstorms drifted southeast from southern Illinois and then accelerated southeast across western Kentucky. Strong outflow winds ahead of the storms produced isolated damage. After the initial storms stabilized the atmosphere, the trailing storms posed more of a heavy rain and flooding threat. The storms occurred along and ahead of a cold front that was draped across southern Illinois and southern Missouri.				
(KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN				
	07/19/11 11:00 CST		0	Excessive Heat
	07/24/11 15:00 CST		0	
(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD				
	07/20/11 11:00 CST		0	Heat
	07/24/11 16:00 CST	5	0	

A large and strong high in the upper levels of the atmosphere drifted slowly east from the central Plains across the Lower Ohio Valley. This strong upper-level high brought six consecutive days of dangerously high heat and humidity to northwest Kentucky, including Henderson and Owensboro. The duration of the dangerous conditions was shorter across the rest of western Kentucky. Across the Pennyryle region (including Madisonville and Hopkinsville), the dangerous heat was limited to just the 20th and 21st. The peak heat index at Henderson was 105 degrees on the 19th, 110 on the 20th and 21st, 108 degrees on the 22nd, 103 on the 23rd, and 105 on the 24th. The

Storm Data and Unusual Weather Phenomena - July 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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peak heat index at Paducah was 103 degrees on the 20th, 107 on the 21st, 105 on the 22nd, and 106 on the 24th. The peak heat index at Hopkinsville was 105 to 106 degrees on the 20th and 21st. Low temperatures were in the mid 70's each night across western Kentucky. At a construction project on Interstate 24 near Kentucky Dam, several members of a work crew apparently became ill due to the heat. Cooling centers were opened in many areas, including Henderson, Owensboro, Paducah, Mayfield, and several smaller cities.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z010) CRITTENDEN, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS	07/27/11 13:00 CST		0	Heat
	07/28/11 17:00 CST		0	

A large and strong high in the upper levels of the atmosphere became oriented from the central Plains eastward across the Lower Ohio Valley to the Atlantic coast. As this high expanded across the Lower Ohio Valley, it brought a couple days of high heat and humidity. The peak heat index at Paducah was 105 degrees on the 27th and 103 degrees on the 28th. The peak heat index at Owensboro was 106 degrees on the 27th and 107 on the 28th. Actual air temperatures were highest on the 28th, when the high at Paducah was 94 degrees.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES	07/31/11 11:00 CST		0	Heat
	07/31/11 17:00 CST		0	

High temperatures reached the lower to mid 90's. Combined with high humidity levels, the hot temperatures produced heat indices near 105 degrees. The peak heat index at Paducah was 106 degrees. A large and strong high in the upper levels of the atmosphere shifted slowly east from the central Plains toward the Middle Mississippi Valley.

MISSOURI, Southeast

CAPE GIRARDEAU COUNTY --- 1.4 SSE CAPE GIRARDEAU [37.28, -89.52], 1.2 NE GULF JCT [37.28, -89.53], 1.3 SE GULF JCT [37.26, -89.53], 1.7 ESE GULF JCT [37.26, -89.52]

07/01/11 00:00 CST	3K	Flood (due to Heavy Rain)
07/20/11 18:00 CST	0	Source: River/Stream Gage

The Mississippi River finally fell below flood stage for the first time since April 20. At the Cape Girardeau river gage, the highest level (or crest) in July was 38.89 feet on the 5th. This crest represented moderate flooding. The flooding in July was considerably less severe than the preceding three months. A couple of flood gates were closed in the Cape Girardeau floodwall. Some low-lying fields, parks, and river access roads were flooded.

Floodwaters from the Missouri River finally made it down the Mississippi River, resulting in crests with minor to moderate flooding early in the month.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID	07/10/11 10:00 CST	1	0	Excessive Heat
	07/12/11 20:00 CST		0	

Direct Fatalities: M57CA

High pressure in the middle and upper levels of the atmosphere expanded east-northeast from the southern Plains. As this high expanded across southern Missouri, it brought a few days of excessive heat and humidity. Peak heat indices on the afternoon of the 10th reached 112 degrees at Cape Girardeau and 119 at Poplar Bluff. On the 11th, the heat index peaked at 117 degrees at Cape Girardeau and 120 at Poplar Bluff. On the 12th, the heat index peaked at 115 degrees at Cape Girardeau and 118 at Poplar Bluff. Actual air temperatures were highest on the 11th, when the high at Cape Girardeau was 99 and the low was 80. At Poplar Bluff, the high was 98 and the low was 80 on the 11th. In Butler County, a 57-year-old man died in a camper that he had been living in for several weeks. The man was using the camper as his residence. There was only a fan for cooling and ventilation. The man had been consuming alcohol, which may have been a contributing factor. In Ripley County, a 74-year-old man was found dead in his home. It appeared he had been working outside shortly before he returned to the house. Heat was likely a contributing factor in his death, but the primary cause of death could not be determined by the coroner (indirect fatality).

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID	07/19/11 11:00 CST	1	21K	Excessive Heat
	07/24/11 14:00 CST	1	0	

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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Direct Fatalities: M62CA

A large and strong high in the upper levels of the atmosphere drifted slowly east from the central Plains across the Lower Ohio Valley. This strong upper-level high brought six consecutive days of dangerously high heat and humidity. The peak heat index at Poplar Bluff was 105 degrees on the 19th, 109 on the 20th, 110 on the 21st, 22nd, and 23rd, and 113 on the 24th. The peak heat index at Cape Girardeau was 105 degrees on the 19th, 103 on the 20th, 106 on the 21st, 109 on the 22nd, 105 on the 23rd, and 109 on the 24th. Low temperatures were from 73 to 78 each night. The actual high temperature at Poplar Bluff reached 100 degrees on the 21st, otherwise highs were in the mid to upper 90's. In Ripley County, a 62-year-old man who had been living in a camper was found dead. The camper had a fan but no air conditioning. There were at least a couple dozen instances of roads buckling due to the heat. One street buckled in Cape Girardeau, and another buckled in Jackson. The damaged areas were cordoned off. The state highway department reported about five instances of roads buckling in Cape Girardeau County and one in Perry County. A few of them were on Interstate 55. About 15 cases of buckled concrete were seen on U.S. Highway 60 and Missouri Highway 25. The buckling occurred at joints in the road where slabs of asphalt or concrete come together. Intense heat caused the slabs to expand and push against each other. Cooling centers were opened in many places, including Marble Hill, Poplar Bluff, Cape Girardeau, Van Buren, Charleston, New Madrid, Perryville, Doniphan, Sikeston and Dexter. A couple of large manufacturing plants closed early or allowed extra long breaks to allow employees to cope with the heat.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/27/11 11:00 CST	0	Heat
07/28/11 16:00 CST	0	

A large and strong high in the upper levels of the atmosphere became oriented from the central Plains eastward across the Lower Ohio Valley to the Atlantic coast. As this high expanded across southern Missouri, it brought a couple days of high heat and humidity. The peak heat index at Cape Girardeau was 105 degrees on the 27th and 106 degrees on the 28th. The peak heat index at Poplar Bluff was 110 degrees on the 27th and 107 on the 28th. Actual air temperatures were highest on the 27th, when the high at Poplar Bluff was 98 degrees.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/31/11 11:00 CST	0	Heat
07/31/11 16:00 CST	0	

High temperatures reached the lower to mid 90's. Combined with high humidity levels, the hot temperatures produced heat indices from 105 to 110 degrees. The peak heat index was 106 degrees at Cape Girardeau and 110 at Poplar Bluff. A large and strong high in the upper levels of the atmosphere shifted slowly east from the central Plains toward the Middle Mississippi Valley.